NUS CORPORATION
A Halliburton Company

8908-15-37

ORIGINAL
(RED)

[redacted]

Permit - A-023
Ground water monitoring report for
9/12/89 and 6/20/89
CHS Inspection Report

FIELD INVESTIGATION TEAM ACTIVITIES AT UNCONTROLLED HAZARDOUS SUBSTANCES FACILITIES — ZONE I

NUS CORPORATION
SUPERFUND DIVISION

State of Maryland

ORIGINAL (RED)

DEPARTMENT OF THE ENVIRONMENT
201 WEST PRESTON STREET • BALTIMORE, MARYLAND 21201
AREA CODE 301 • 225-5647

William Donald Schaefer
Governor

Martin W. Walsh, Jr.
Secretary

CONTROLLED HAZARDOUS SUBSTANCES FACILITY PERMIT

Permit Number: A-023

Effective Date: October 5, 1987

Expiration Date: October 4, 1990

Pursuant to the Provisions of Health-Environmental Article, Section 7-232, Annotated Code of Maryland and regulations promulgated thereunder, the Office of Environmental Programs, Waste Management Administration, hereinafter referred to as "WMA" hereby authorizes

FMC Corporation
Agricultural Chemical Group

to operate a controlled hazardous substances Incinerator facility located at 1701 East Patapsco Avenue, Baltimore, Maryland in accordance with the following special and general conditions including the attached map made a part hereof, and the provisions of COMAR 10.51. Applicable regulations are those which are in effect on the date of issuance of this permit.

This permit is based on the assumption that the information submitted in the permit application attached to the Permittee's letter dated August, 1981 as modified by subsequent amendments dated January 13, 1984; August 10, 1984; February 28, 1985; April 10, 1985; September 4, 1985; October 31, 1985; September 4, 1986; September 30, 1986; December 4, 1986; December 31, 1986; April 1, 1987; April 2, 1987; April 24, 1987; May 5, 1987; June 16, 1987; June 23, 1987; July 14, 1987; and July 29, 1987 (hereafter referred to as the application) is accurate and that the facility will be constructed and/or operated as specified in the application. Any inaccuracies found in this information may be grounds for the termination or modification of this permit (see COMAR 10.51.07.02 J) and potential enforcement action. The Permittee must inform the WMA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

ORIGINAL (RED)

PART III - INCINERATION

A. WASTE IDENTIFICATION

1. The Permittee may not incinerate any off-site generated waste.

2. The Permittee shall incinerate only the following on-site generated wastes:

NON-CHS WASTES

Liquid Waste Streams

a. Super Tar
b. Claisen Tar
c. 7-OH Tars (Plants I, III, IV)
d. DV Ester Step 1 Waste
e. DV Ester Step 3 Waste
f. Plant 4 CD-101 Flush Oil
g. Plant 4 Tars (U-11 and U-12 tars)
h. Waste No. 2 Fuel Oil
i. Waste Oil
j. Command Herbicide Organic Waste Stream
k. Diallyl Phthalates

Gaseous Waste Streams

l. Xylene Waste Gas Stream
m. 7-OH Plant III Step I Gas Steam

CHS WASTES

n. Second Basin Oil
o. Third Basin Oil
p. Waste Methanol
q. TMOA Waste (trimethyl-orthoacetate)
r. MAC Waste (Methallyl chloride)
s. Allyl Alcohol/Ether

t. Pounce Organics
u. DV Ester Step 3 Head Cut C/A
v. DV Ester Step 3 Bottoms
w. Heptane
x. Hexane
y. Xylene from 7-OH
z. Plant 4 Organics

B. WASTE FEED LIMITATIONS

1. The Permittee shall incinerate wastes listed in (A) above within the specifications listed below, except as provided in B.2 below:

   a. Total BTU loading from all wastes fed to the incinerator: less than or equal to 4.5×10^7 BTU/hour.

   b. Total chlorine loading from all wastes fed to the incinerator: less than or equal to [redacted]r.

   c. Total ash loading: less than or equal to [redacted] lbs/hour.

   d. Viscosity of waste streams fed through the organics nozzle: less than or equal to 50 centipoise at 100°F.

   e. Gaseous xylene waste feed rate: less than or equal to [redacted]ubic feet per minute (ACFM).

2. The Permittee, when incinerating CHS wastes listed in (A) above which contain Appendix V constituents shall comply with the specifications listed below:

   a. Waste methanol feed rate: less than or equal to 5% [redacted]/hr. gray in Hz.

   b. Combined feed rate of all 7-OH Tars: less than or equal to [redacted]bs/hr.

   c. Waste Super Tar/Claisen Tar feed rate: less than [redacted]lbs/hr.

   d. Total ash loading: less than or equal to [redacted]hour.

repeat in flow rate violation in a row for next rate for Hole Hour in limit

C. OPERATING CONDITIONS

1. The Permittee shall incinerate wastes listed in (A) only when the incinerator is operating within the specifications listed below:

   a. Stack gas carbon monoxide (CO) concentration; less than or equal to:

      i. 500 ppm average corrected to 7% oxygen for any ten minute period

      ii. 100 ppm average corrected to 7% oxygen for any 60 minute period

   b. In determining compliance with (a) above assume a constant 15% oxygen level in the stack gas.

   c. Combustion chamber temperature as measured by the [redacted]s in the combustion chamber: [redacted] when burning [redacted] containing [redacted]; [redacted] when burning any waste which does not contain Appendix V constituents. Any excursions below these limits shall be for less than [redacted] consecutive [redacted].

   d. Primary combustion chamber air flow, including the xylene waste gas stream: less than or equal to [redacted] Any excursions above this limit shall be for less than [redacted].

   e. Secondary combustion chamber air flow: less than or equal to [redacted]. Any excursions above this limit shall be for less than sixty [redacted] consecutive seconds.

   f. Venturi quench column process water flow rate: greater than or equal to [redacted]. Any excursions below this limit shall be for less than sixty [redacted] consecutive seconds.

   g. Venturi quench column make-up water flow rate: greater than or equal to [redacted] Any excursions below this limit shall be for less than sixty (60) consecutive seconds.

   h. Packed tower scrubber liquid flow rate: greater than or equal to [redacted] gpm. Any excursions below this limit shall be for less than [redacted] (60) consecutive seconds.

i. Scrubber liquid pH: greater than 5.5 and less than 9.5. Any excursions outside of this pH range shall be for less than ten ([redacted]ive minutes.

j. Wet electrostatic precipitator (WESP) recirculating pump flow rate: greater than or equal to 160 gpm. Any excursions below this limit shall be for less than six[redacted]consecutive seconds.

k. WESP make-up water flow rate: greater than or equal to 18 gpm. Any excursions below this limit shall be for less than sixty (60) consecutive [redacted]s.

l. WESP DC voltage: greater than or equal to [redacted]V. Any excursions below this limit shall be for less than sixty[redacted]ecutive seconds.

m. Combustion chamber pressure: less than atmospheric. Any excursions above atmospheric pressure shall be for less than [redacted]60) co[redacted]ive seconds.

2. The Permittee may not introduce wastes into the incinerator unless the incinerator and associated equipment are operating within the conditions specified above.

3. Within 120 days of permit issuance, the Permittee shall install, operate, maintain, and calibrate a system to [redacted]off waste feed to the incinerator. This system shall be operated whenever CHS wastes containing Appendix V constituents are fed to the incinerator and shall be operated to shut off any CHS waste stream containing Appendix V constituents when the conditions listed below are violated.

IV 2/1

a. Exhaust gas carbon monoxide concentration is greater than:

i. An average of 500 ppm for any ten-minute period corrected to 7% oxygen.

ii. An average of 100 ppm for any sixty-minute period corrected to 7% oxygen.

b. In determining compliance with a. above assume a constant 15% oxygen level in the stack gas.

c. The incinerator combustion chamber temperature, as measured by the thermocouples in the combustion chamber, falls below [redacted] for sixty (60) consecutive seconds.

d. Primary combustion air flow including the gaseous xylene waste stream: [redacted] ACFM for sixty (60) consecutive seconds.

e. The secondary combustion air flow: greater than [redacted] for sixty (60) consecutive seconds.

f. Scrubber liquid flow rate: less than [redacted] gallons per minute for sixty (60) consecutive seconds.

g. WESP DC voltage: less than 20[redacted] for sixty (60) consecutive seconds.

4. If there is an incinerator shut-down or any of the automatic waste feed cut-off systems activate, the Permittee may not re-introduce waste to the incinerator until the cause of the incinerator shut down has been determined and the problem rectified.

5. The Permittee may not feed CHS wastes containing Appendix V constituents into the incinerator if any portion of the automatic waste feed cut-off system is inoperative, unless alternative monitoring approved by the Department is performed and monitored for manual shut down.

6. The Permittee may not operate the alternative monitoring required in (5) above for a period greater than [redacted] it is approved by the Secretary.

7. The Permittee shall stop all waste feed when changes in the waste feed or operating conditions are not in accordance with this permit.

D. PERFORMANCE STANDARDS

The Permittee shall operate and maintain the incinerator, in accordance with conditions III B and III C above, to meet the following performance standards:

1. A destruction and removal efficiency (DRE) greater than or equal to 99.99% for all Appendix V constituents.

2. When burning CHS wastes containing Appendix V constituents: a hydrogen chloride (HCl) emissions rate less than or equal to 4.0 lbs/hr or 1% of the HCl in the stack gas prior to entering any pollution control equipment.

3. A particulate matter emissions less than or equal to 0.030 grains per dry standard cubic foot corrected to 12% carbon dioxide

4. No stack gas emissions which are visible to human observers other than water in an uncombined form.

E. MONITORING AND INSPECTIONS

1. The Permittee shall maintain, operate, and calibrate monitoring equipment which continuously monitors and records the following:

	Parameter	Frequency of Calibration
a.	carbon monoxide concentration of incinerator exhaust gas corrected to 7% oxygen with assumed 15% oxygen level in the stack gas	daily
b.	combustion zone temperature	quarterly
c.	primary combustion air flow	monthly
d.	secondary combustion air flow	monthly
e.	scrubber liquid flow rate	monthly
f.	WESP DC voltage	monthly

2. The Permittee shall monitor and record the following operating parameters at least every two (2) hours during incineration of wastes: process and make-up water flows to the venturi quench column, WESP recirculating pumps flow rate, WESP make-up water flow rate, and scrubber water pH.

3. The Permittee shall thoroughly visually inspect the incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) at least daily for leaks, spills, fugitive emissions, and signs of tampering.

4. The Permittee shall test the incinerator emergency waste feed cut-off system and associated alarms at least monthly to verify operability.

F. **RECORDKEEPING**

The Permittee must maintain a written operating log at the facility. For each calendar day on which hazardous waste is burned, the log must contain the information specified below:

1. Total quantity of each waste burned.

2. Description of all maintenance performed.

3. Results of all monitoring, testing, and inspections as required in Section E.

G. **REPORTING**

1. The Permittee shall report to the Secretary all occurances in which the parameters listed in Section C violate the limits and time periods specified. The report shall describe the parameter, date, start time, duration and (where appropriate) magnitude of the exceedance. It shall also describe the cause of the exceedance, corrective measures taken to prevent reoccurrence and whether automatic shut down occurred. If there are no exceedances during a given period, the Permittee shall submit a report to that effect.

2. The Permittee shall submit the above compliance reports on a quarterly basis no later than fifteen (15) days after the end of each calendar quarter.

3. The Permittee shall immediately verbally report to the Secretary any period in which a portion of the automatic cut-off system is inoperative and it is being monitored by an alternative method for manual shutdown. A written report shall be submitted with the above quarterly report.

H. **WASTE ANALYSIS**

Throughout operation of the incinerator, the permittee shall conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical limits specified in this permit, as specified in Attachment 1, waste analysis and at a minimum each time there is a change in the composition of the waste due to a process change.

I. **COMPLIANCE SCHEDULE**

1. Within 120 days of issuance of this permit, the Permittee shall install a waste feed shut off system to comply with conditions C.3a above. DONE FEB 5, 88

J. **TEST SCHEDULE**

Within 90 days of issuance of this permit, the Permittee shall allow the Department to conduct a test to determine the HCl removal efficiency of the air pollution control devices associated with the incinerator. DONE 3 4 JUNE 88

K. **CLOSURE**

At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber waters, and scrubber sludges) from the incinerator site, in accordance with Attachment 6.

LIST OF ATTACHMENTS

Attachment No.		Applicability
1.	Waste Analysis Plan	Y
2.	Inspection Schedule	Y
3.	Training Outline	Y
4.	Contingency Plan	Y
5.	Incinerator and Control System Description	Y
6.	Closure Plan	Y
7.	Financial Assurance	Y

Ronald Nelson, Director
Waste Management Administration

October 5, 1987
Date Signed

ORIGINAL
(RED)

FMC CORPORATION - BALTIMORE, MARYLAND
THIRD QUARTER - 1989 REPORT

Permit No. A023
EPA I.D. No. MDD003071875
Special Condition A

MATERIALS INCINERATED ON-SITE	QUANTITY (TONS)
Plant 4 Waste	969
Basin Oils	44
Methallyl Chloride (MAC) Waste	523
DV Ester Waste Methanol	631
Herbicide Bottoms	69
Waste Oil	0

MATERIALS STORED ON-SITE	QUANTITY (TONS)
Glassware	2.1
Phosphorous Pentasulfide	0.4
Hazardous Waste	242

Gascoyne Laboratories, Inc.

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ORIGINAL (RED)

REPORT OF ANALYSIS

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 1 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #10

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	8900	50	EPA 325.3	RAH	08/10/89
Chromium (Cr), Total *	0.05	0.05	EPA 218.1	KG	08/21/89
[illegible]ndrin	ND	0.001	EPA 8080	GD/RJ	08/22/89
Ground Water Elevation (field)	6.8	NA	NA	TS/SC	08/09/89
Iron (Fe) *	202	1	EPA 236.1	KG	08/21/89
Lindane	ND	0.001	EPA 8080	GD/RJ	08/22/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.007	EPA 8080	GD/RJ	08/22/89
pH (field)	6.4	NA	EPA 150.1	TS/SC	08/09/89
pH (lab A)	6.5	NA	EPA 150.1	CM	08/09/89
pH (lab B)	6.5	NA	EPA 150.1	CM	08/09/89
pH (lab C)	6.5	NA	EPA 150.1	CM	08/09/89
pH (lab D)	6.5	NA	EPA 150.1	CM	08/09/89
Phenols (4-AAP)	1.4	0.5	EPA 420.1	MM/TS	08/18/89
Potassium (K) *	1600	10	EPA 258.1	KG	08/21/89
Specific Conductance (field)	20900	NA	EPA 120.1	TS/SC	08/09/89
Specific Conductance (lab A)	25500	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab B)	24500	NA	EPA 120.1	MM	08/09/89
[illegible]pecific Conductance (lab C)	25900	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab D)	24700	NA	EPA 120.1	MM	08/09/89
Sulfate (SO_4) *	4200	1000	EPA 375.4	SW	08/25/89
Temperature, °C (field)	20.4	NA	EPA 170.1	TS/SC	08/09/89
Total Dissolved Solids *	18000	4	EPA 160.1	CL/CM	08/16/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

Irving M. Kipnis

Laboratory Director
Irving M. Kipnis, Ph.D.

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REPORT OF ANALYSIS

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 2 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #10

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	820	10	EPA 415.1	MM	08/11/89
Total Organic Carbon (B) *	800	10	EPA 415.1	MM	08/11/89
Total Organic Carbon (C) *	820	10	EPA 415.1	MM	08/11/89
Total Organic Carbon (D) *	800	10	EPA 415.1	MM	08/11/89
Total Organic Halogen (A)	64	5	EPA 9020	CL/CM	08/22/89
Total Organic Halogen (B)	78	5	EPA 9020	CL/CM	08/22/89
Total Organic Halogen (C)	75	5	EPA 9020	CL/CM	08/22/89
Total Organic Halogen (D)	71	5	EPA 9020	CL/CM	08/22/89
Toxaphene	ND	0.04	EPA 8080	GD/RJ	08/22/89
2,4-D	ND	0.02	EPA 8150	GD	08/17/89
2,4,5-TP (Silvex)	ND	0.01	EPA 8150	GD	08/17/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.

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REPORT OF ANALYSIS

Report No. 89-08-198 Report Date: September 12, 1989

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #12

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	560	10	EPA 325.3	RAH	08/10/89
Chromium (Cr), Hexavalent *	ND	0.1	SM 312B	TS	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Copper (Cu)	0.02	0.01	EPA 220.1	KG	08/21/89
Endrin	ND	0.001	EPA 8080	GD/RJ	08/21/89
Ground Water Elevation (field)	8.6	NA	NA	MA/SC	08/08/89
Iron (Fe) *	26.0	0.1	EPA 236.1	KG	08/21/89
Lindane	ND	0.001	EPA 8080	GD/RJ	08/21/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.003	EPA 8080	GD/RJ	08/22/89
Nickel (Ni)	0.15	0.02	EPA 249.1	KG	08/21/89
pH (field)	5.6	NA	EPA 150.1	MA/SC	08/08/89
pH (lab A)	5.8	NA	EPA 150.1	MM	08/08/89
Phenols (4-AAP)	0.07	0.005	EPA 420.1	MM/TS	08/18/89
Potassium (K) *	5.7	0.1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	2070	NA	EPA 120.1	MA/SC	08/08/89
Specific Conductance (lab A)	2260	NA	EPA 120.1	MM	08/08/89
Sulfate (SO_4) *	490	100	EPA 375.4	SW	08/25/89
Temperature, °C (field)	16.5	NA	EPA 170.1	MA/SC	08/08/89
Total Dissolved Solids *	1490	1	EPA 160.1	CL/CM	08/16/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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REPORT OF ANALYSIS

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 4 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #12

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	50	1	EPA 415.1	MM	08/11/89
Total Organic Halogen (A)	2.8	0.1	EPA 9020	CM	08/19/89
Toxaphene	ND	0.03	EPA 8080	GD/RJ	08/21/89
Zinc (Zn)	0.12	0.01	EPA 289.1	KG	08/21/89
2,4-D	ND	0.005	EPA 8150	GD/JS	08/21/89
2,4,5-TP (Silvex)	ND	0.002	EPA 8150	GD/JS	08/21/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) *-Analyses performed on filtered (0.45 micron) sample.

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REPORT OF ANALYSIS

Report No. 89-08-198 Report Date: September 12, 1989

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #12A

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	310	2	EPA 325.3	RAH	08/10/89
Chromium (Cr), Hexavalent *	ND	0.1	SM 312B	TS	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Copper (Cu)	0.02	0.01	EPA 220.1	KG	08/21/89
Endrin	ND	0.002	EPA 8080	GD/RJ	08/18/89
Ground Water Elevation (field)	4.8	NA	NA	MA/SC	08/08/89
Iron (Fe) *	209	1	EPA 236.1	KG	08/21/89
Lindane	ND	0.002	EPA 8080	GD/RJ	08/18/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.01	EPA 8080	GD/RJ	08/18/89
Nickel (Ni)	ND	0.02	EPA 249.1	KG	08/21/89
pH (field)	6.1	NA	EPA 150.1	MA/SC	08/08/89
pH (lab A)	6.2	NA	EPA 150.1	MM	08/08/89
Phenols (4-AAP)	1.8	0.05	EPA 420.1	TS/MM	08/18/89
Potassium (K) *	60.1	0.1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	1680	NA	EPA 120.1	MA/SC	08/08/89
Specific Conductance (lab A)	1670	NA	EPA 120.1	MM	08/08/89
Sulfate (SO_4) *	960	200	EPA 375.4	SW	08/25/89
Temperature, °C (field)	15.5	NA	EPA 170.1	MA/SC	08/08/89
Total Dissolved Solids *	1330	1	EPA 160.1	CL/CM	08/16/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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Laboratory Director
Irving M. Kipnis, Ph.D.

Please see reverse side for explanations and other information.

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REPORT OF ANALYSIS

Report No. 9-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 6 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #12A

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	53	1	EPA 415.1	MM	08/11/89
Total Organic Halogen (A)	3.4	0.2	EPA 9020	CM	08/19/89
Toxaphene	ND	0.07	EPA 8080	GD/RJ	08/18/89
Zinc (Zn)	0.04	0.01	EPA 289.1	KG	08/21/89
2,4-D	ND	0.005	EPA 8150	GD/RJ	08/18/89
2,4,5-TP (Silvex)	ND	0.005	EPA 8150	GD/RJ	08/18/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) *-Analyses performed on filtered (0.45 micron) sample.

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REPORT OF ANALYSIS

Report No. -08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 7 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #13

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	1500	25	EPA 325.3	RAH	08/10/89
Chromium (Cr), Hexavalent *	ND	0.1	SM 312B	TS	08/10/89
Chromium (Cr), Total *	0.05	0.05	EPA 218.1	KG	08/21/89
Copper (Cu)	0.01	0.01	EPA 220.1	KG	08/21/89
Endrin	ND	0.003	EPA 8080	GD/RJ	08/18/89
Ground Water Elevation (field)	7.2	NA	NA	MA/SC	08/08/89
Iron (Fe) *	45.9	0.1	EPA 236.1	KG	08/21/89
Lindane	ND	0.003	EPA 8080	GD/RJ	08/18/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.02	EPA 8080	GD/RJ	08/18/89
Nickel (Ni)	0.03	0.02	EPA 249.1	KG	08/21/89
pH (field)	6.6	NA	EPA 150.1	MA/SC	08/08/89
pH (lab A)	6.7	NA	EPA 150.1	MM	08/08/89
Phenols (4-AAP)	2.1	0.05	EPA 420.1	TS/MM	08/18/89
Potassium (K) *	680	1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	7140	NA	EPA 120.1	MA/SC	08/08/89
Specific Conductance (lab A)	9250	NA	EPA 120.1	MM	08/08/89
Sulfate (SO_4) *	3900	1000	EPA 375.4	SW	08/25/89
Temperature, °C (field)	16.5	NA	EPA 170.1	MA/SC	08/08/89
Total Dissolved Solids *	7500	4	EPA 160.1	CL/CM	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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REPORT OF ANALYSIS

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #13

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	1200	10	EPA 415.1	MM	08/11/89
Total Organic Halogen (A)	65	10	EPA 9020	CM	08/19/89
Toxaphene	ND	0.06	EPA 8080	GD/RJ	08/18/89
Zinc (Zn)	0.06	0.01	EPA 289.1	KG	08/21/89
2,4-D	ND	0.03	EPA 8150	GD/RJ	08/16/89
2,4,5-TP (Silvex)	ND	0.005	EPA 8150	GD/RJ	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) *-Analyses performed on filtered (0.45 micron) sample.

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REPORT OF ANALYSIS

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #13A

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	1900	25	EPA 325.3	RAH	08/10/89
Chromium (Cr), Hexavalent *	ND	0.1	SM 312B	TS	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Copper (Cu)	0.02	0.01	EPA 220.1	KG	08/21/89
Endrin	ND	0.001	EPA 8080	GD/RJ	08/18/89
Ground Water Elevation (field)	3.6	NA	NA	MA/SC	08/08/89
Iron (Fe) *	1400	10	EPA 236.1	KG	08/21/89
Lindane	ND	0.001	EPA 8080	GD/RJ	08/18/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.003	EPA 8080	GD/RJ	08/18/89
Nickel (Ni)	0.20	0.02	EPA 249.1	KG	08/21/89
pH (field)	5.8	NA	EPA 150.1	MA/SC	08/08/89
pH (lab A)	5.7	NA	EPA 150.1	MM	08/08/89
Phenols (4-AAP)	0.08	0.005	EPA 420.1	MM/TS	08/18/89
Potassium (K) *	45.8	0.1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	4930	NA	EPA 120.1	MA/SC	08/08/89
Specific Conductance (lab A)	6830	NA	EPA 120.1	MM	08/08/89
Sulfate (SO_4) *	3200	500	EPA 375.4	SW	08/25/89
Temperature, °C (field)	15.8	NA	EPA 170.1	MA/SC	08/08/89
Total Dissolved Solids *	5100	2	EPA 160.1	CL/CM	08/16/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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REPORT OF ANALYSIS

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #13A

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	250	10	EPA 415.1	MM	08/11/89
Total Organic Halogen (A)	3.8	0.2	EPA 9020	CM	08/19/89
Toxaphene	ND	0.03	EPA 8080	GD/RJ	08/18/89
Zinc (Zn)	0.09	0.01	EPA 289.1	KG	08/21/89
2,4-D	ND	0.003	EPA 8150	GD/RJ	08/16/89
2,4,5-TP (Silvex)	ND	0.0005	EPA 8150	GD/RJ	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) *-Analyses performed on filtered (0.45 micron) sample.

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #14

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	420	2	EPA 325.3	RAH	08/10/89
Chromium (Cr), Hexavalent *	ND	0.1	SM 312B	TS	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Copper (Cu)	0.02	0.01	EPA 220.1	KG	08/21/89
Endrin	ND	0.002	EPA 8080	GD/RJ	08/18/89
Ground Water Elevation (field)	2.1	NA	NA	MA/SC	08/08/89
Iron (Fe) *	78.0	0.1	EPA 236.1	KG	08/21/89
Lindane	ND	0.001	EPA 8080	GD/RJ	08/18/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.008	EPA 8080	GD/RJ	08/18/89
Nickel (Ni)	ND	0.02	EPA 249.1	KG	08/21/89
pH (field)	6.5	NA	EPA 150.1	MA/SC	08/08/89
pH (lab A)	6.5	NA	EPA 150.1	MM	08/08/89
Phenols (4-AAP)	0.05	0.005	EPA 420.1	MM/TS	08/18/89
Potassium (K) *	63.3	0.1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	2330	NA	EPA 120.1	MA/SC	08/08/89
Specific Conductance (lab A)	1920	NA	EPA 120.1	MM	08/08/89
Sulfate (SO_4) *	1300	200	EPA 375.4	SW	08/25/89
Temperature, °C (field)	17.3	NA	EPA 170.1	MA/SC	08/08/89
Total Dissolved Solids *	1500	2	EPA 160.1	CL/CM	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #14

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	100	1	EPA 415.1	MM	08/11/89
Total Organic Halogen (A)	4.4	0.2	EPA 9020	CM	08/19/89
Toxaphene	ND	0.03	EPA 8080	GD/RJ	08/18/89
Zinc (Zn)	0.05	0.01	EPA 289.1	KG	08/21/89
2,4-D	ND	0.003	EPA 8150	GD/RJ	08/16/89
2,4,5-TP (Silvex)	ND	0.005	EPA 8150	GD/RJ	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) *-Analyses performed on filtered (0.45 micron) sample.

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #15

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	6300	50	EPA 325.3	RAH	08/10/89
Chromium (Cr), Hexavalent *	ND	0.1	SM 312B	TS	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Copper (Cu)	0.02	0.01	EPA 220.1	KG	08/21/89
Endrin	ND	0.02	EPA 8080	GD/RJ	08/18/89
Ground Water Elevation (field)	10.9	NA	NA	MA/SC	08/08/89
Iron (Fe) *	0.18	0.01	EPA 236.1	KG	08/21/89
Lindane	ND	0.002	EPA 8080	GD/RJ	08/18/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.01	EPA 8080	GD/RJ	08/18/89
Nickel (Ni)	0.04	0.02	EPA 249.1	KG	08/21/89
pH (field)	6.4	NA	EPA 150.1	MA/SC	08/08/89
pH (lab A)	6.5	NA	EPA 150.1	MM	08/08/89
Phenols (4-AAP)	21	0.3	EPA 420.1	TS	08/18/89
Potassium (K) *	2300	10	EPA 258.1	KG	08/21/89
Specific Conductance (field)	12020	NA	EPA 120.1	MA/SC	08/08/89
Specific Conductance (lab A)	17890	NA	EPA 120.1	MM	08/08/89
Sulfate (SO_4) *	4500	1000	EPA 375.4	SW	08/25/89
Temperature, °C (field)	17.3	NA	EPA 170.1	MA/SC	08/08/89
Total Dissolved Solids *	11000	4	EPA 160.1	CL/CM	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #15

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	1200	10	EPA 415.1	MM	08/11/89
Total Organic Halogen (A)	26	2	EPA 9020	CM	08/19/89
Toxaphene	ND	0.07	EPA 8080	GD/RJ	08/18/89
Zinc (Zn)	0.02	0.01	EPA 289.1	KG	08/21/89
2,4-D	ND	0.03	EPA 8150	GD/RJ	08/16/89
2,4,5-TP (Silvex)	ND	0.005	EPA 8150	GD/RJ	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) *-Analyses performed on filtered (0.45 micron) sample.

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #16

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	4200	25	EPA 325.3	RAH	08/10/89
Chromium (Cr), Total *	0.67	0.05	EPA 218.1	KG	08/21/89
Endrin	ND	0.001	EPA 8080	GD/RJ	08/22/89
Ground Water Elevation (field)	3.6	NA	NA	TS/SC	08/09/89
Iron (Fe) *	0.72	0.01	EPA 236.1	KG	08/21/89
Lindane	ND	0.001	EPA 8080	GD/RJ	08/22/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.005	EPA 8080	GD/RJ	08/22/89
pH (field)	7.0	NA	EPA 150.1	TS/SC	08/09/89
pH (lab A)	7.1	NA	EPA 150.1	CM	08/09/89
pH (lab B)	7.5	NA	EPA 150.1	CM	08/09/89
pH (lab C)	7.0	NA	EPA 150.1	CM	08/09/89
pH (lab D)	7.0	NA	EPA 150.1	CM	08/09/89
Phenols (4-AAP)	0.42	0.005	EPA 420.1	TS	08/25/89
Potassium (K) *	2700	10	EPA 258.1	KG	08/21/89
Specific Conductance (field)	18400	NA	EPA 120.1	TS/SC	08/09/89
Specific Conductance (lab A)	20200	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab B)	20400	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab C)	20500	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab D)	20500	NA	EPA 120.1	MM	08/09/89
Sulfate (SO_4) *	4300	1000	EPA 375.4	SW	08/25/89
Temperature, °C (field)	22.1	NA	EPA 170.1	TS/SC	08/09/89
Total Dissolved Solids *	16000	4	EPA 160.1	CL/CM	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #16

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	2300	100	EPA 415.1	TS	08/14/89
Total Organic Carbon (B) *	2300	100	EPA 415.1	TS	08/14/89
Total Organic Carbon (C) *	2300	100	EPA 415.1	TS	08/14/89
Total Organic Carbon (D) *	2400	100	EPA 415.1	TS	08/14/89
Total Organic Halogen (A)	179	20	EPA 9020	CM	08/22/89
Total Organic Halogen (B)	190	20	EPA 9020	CM	08/22/89
Total Organic Halogen (C)	183	20	EPA 9020	CM	08/22/89
Total Organic Halogen (D)	176	20	EPA 9020	CM	08/22/89
Toxaphene	ND	0.03	EPA 8080	GD/RJ	08/22/89
2,4-D	ND	0.02	EPA 8150	GD/RJ	08/17/89
2,4,5-TP (Silvex)	ND	0.01	EPA 8150	GD/RJ	08/17/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #17

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	710	5	EPA 325.3	RAH	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Endrin	ND	0.001	EPA 8080	GD/RJ	08/22/89
Ground Water Elevation (field)	2.6	NA	NA	TS/SC	08/09/89
Iron (Fe) *	209	1	EPA 236.1	KG	08/21/89
Lindane	ND	0.001	EPA 8080	GD/RJ	08/22/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.007	EPA 8080	GD/RJ	08/22/89
pH (field)	4.6	NA	EPA 150.1	TS/SC	08/09/89
pH (lab A)	4.3	NA	EPA 150.1	CM	08/09/89
pH (lab B)	4.5	NA	EPA 150.1	CM	08/09/89
pH (lab C)	4.3	NA	EPA 150.1	CM	08/09/89
pH (lab D)	4.3	NA	EPA 150.1	CM	08/09/89
Phenols (4-AAP)	0.37	0.005	EPA 420.1	TS	08/25/89
Potassium (K) *	12.9	0.1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	2480	NA	EPA 120.1	TS/SC	08/09/89
Specific Conductance (lab A)	3040	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab B)	2930	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab C)	3030	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab D)	3020	NA	EPA 120.1	MM	08/09/89
Sulfate (SO_4) *	400	10	EPA 375.4	SW	08/25/89
Temperature, °C (field)	18.2	NA	EPA 170.1	TS/SC	08/09/89
Total Dissolved Solids *	2400	1	EPA 160.1	CL	08/16/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #17

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	64	1	EPA 415.1	TS	08/14/89
Total Organic Carbon (B) *	60	1	EPA 415.1	TS	08/14/89
Total Organic Carbon (C) *	76	1	EPA 415.1	TS	08/14/89
Total Organic Carbon (D) *	87	1	EPA 415.1	TS	08/14/89
Total Organic Halogen (A)	35	5	EPA 9020	CM	08/22/89
Total Organic Halogen (B)	42	3	EPA 9020	CM	08/22/89
Total Organic Halogen (C)	41	3	EPA 9020	CM	08/22/89
Total Organic Halogen (D)	40	5	EPA 9020	CM	08/22/89
Toxaphene	ND	0.04	EPA 8080	GD/RJ	08/22/89
2,4-D	ND	0.001	EPA 8150	GD/RJ	08/17/89
2,4,5-TP (Silvex)	ND	0.001	EPA 8150	GD/RJ	08/17/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.

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REPORT OF ANALYSIS

ORIGINAL
(RED)

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 19 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #22

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	260	2	EPA 325.3	RAH	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Endrin	ND	0.002	EPA 8080	GD	08/21/89
Ground Water Elevation (field)	15.6	NA	NA	MA/SC	08/08/89
Iron (Fe) *	19.3	0.1	EPA 236.1	KG	08/21/89
Lindane	ND	0.003	EPA 8080	GD	08/21/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.03	EPA 8080	GD	08/18/89
pH (field)	5.7	NA	EPA 150.1	MA/SC	08/08/89
pH (lab A)	5.8	NA	EPA 150.1	MM	08/08/89
pH (lab B)	5.9	NA	EPA 150.1	MM	08/08/89
pH (lab C)	5.8	NA	EPA 150.1	MM	08/08/89
pH (lab D)	5.8	NA	EPA 150.1	MM	08/08/89
Phenols (4-AAP)	0.18	0.005	EPA 420.1	TS	08/25/89
Potassium (K) *	0.8	0.1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	800	NA	EPA 120.1	MA/SC	08/08/89
Specific Conductance (lab A)	885	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab B)	866	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab C)	871	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab D)	947	NA	EPA 120.1	MM	08/08/89
Sulfate (SO_4) *	650	100	EPA 375.4	SW	08/25/89
Temperature, °C (field)	18.6	NA	EPA 170.1	MA/SC	08/08/89
Total Dissolved Solids *	589	1	EPA 160.1	CL	08/16/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

Irving M. Kipnis

Laboratory Director
Irving M. Kipnis, Ph.D.

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BALTIMORE, M.D.
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ORIGINAL (RED)

REPORT OF ANALYSIS

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 20 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #22

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	49	1	EPA 415.1	TS	08/14/89
Total Organic Carbon (B) *	54	1	EPA 415.1	TS	08/14/89
Total Organic Carbon (C) *	48	1	EPA 415.1	TS	08/14/89
Total Organic Carbon (D) *	49	1	EPA 415.1	TS	08/14/89
Total Organic Halogen (A)	36	5	EPA 9020	CM	08/19/89
Total Organic Halogen (B)	35	5	EPA 9020	CM	08/19/89
Total Organic Halogen (C)	42	5	EPA 9020	CM	08/19/89
Total Organic Halogen (D)	38	5	EPA 9020	CM	08/19/89
Toxaphene	ND	0.03	EPA 8080	GD/RJ	08/18/89
2,4-D	ND	0.003	EPA 8150	GD/RJ	08/16/89
2,4,5-TP (Silvex)	ND	0.0006	EPA 8150	GD/RJ	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.

Irving M. Kipnis
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Please see reverse side for explanations and other information.

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REPORT OF ANALYSIS

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 21 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #23

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	230	5	EPA 325.3	RAH	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Endrin	ND	0.003	EPA 8080	GD/RJ	08/18/89
Ground Water Elevation (field)	15.5	NA	NA	MA/SC	08/08/89
Iron (Fe) *	61.5	0.1	EPA 236.1	KG	08/21/89
Lindane	ND	0.003	EPA 8080	GD	08/21/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.03	EPA 8080	GD/RJ	08/18/89
pH (field)	5.9	NA	EPA 150.1	MA/SC	08/08/89
pH (lab A)	6.0	NA	EPA 150.1	MM	08/08/89
pH (lab B)	6.0	NA	EPA 150.1	MM	08/08/89
pH (lab C)	6.0	NA	EPA 150.1	MM	08/08/89
pH (lab D)	6.0	NA	EPA 150.1	MM	08/08/89
Phenols (4-AAP)	0.17	0.005	EPA 420.1	TS	08/25/89
Potassium (K) *	0.8	0.1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	638	NA	EPA 120.1	MA/SC	08/08/89
Specific Conductance (lab A)	743	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab B)	738	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab C)	738	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab D)	745	NA	EPA 120.1	MM	08/08/89
Sulfate (SO_4) *	1500	200	EPA 375.4	SW	08/25/89
Temperature, °C (field)	19.3	NA	EPA 170.1	MA/SC	08/08/89
Total Dissolved Solids *	487	1	EPA 160.1	CL	08/16/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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REPORT OF ANALYSIS

ORIGINAL (RED)

Report No. 89-08-198 Report Date: September 12, 1989

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #23

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	32	1	EPA 415.1	RAH	08/16/89
Total Organic Carbon (B) *	31	1	EPA 415.1	RAH	08/16/89
Total Organic Carbon (C) *	29	1	EPA 415.1	RAH	08/16/89
Total Organic Carbon (D) *	30	1	EPA 415.1	RAH	08/16/89
Total Organic Halogen (A)	73	2	EPA 9020	CM	08/19/89
Total Organic Halogen (B)	57	10	EPA 9020	CM	08/19/89
Total Organic Halogen (C)	73	5	EPA 9020	CM	08/19/89
Total Organic Halogen (D)	66	5	EPA 9020	CM	08/19/89
Toxaphene	ND	0.1	EPA 8080	GD/RJ	08/18/89
2,4-D	ND	0.003	EPA 8150	GD/RJ	08/16/89
2,4,5-TP (Silvex)	ND	0.0005	EPA 8150	GD/RJ	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.

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ORIGINAL (RED)

REPORT OF ANALYSIS

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 23 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #24

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	120	2	EPA 325.3	RAH	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Endrin	ND	0.002	EPA 8080	GD/RJ	08/18/89
Ground Water Elevation (field)	15.4	NA	NA	MA/SC	08/08/89
Iron (Fe) *	52.9	0.1	EPA 236.1	KG	08/21/89
Lindane	ND	0.002	EPA 8080	GD/RJ	08/18/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.02	EPA 8080	GD/RJ	08/18/89
pH (field)	6.0	NA	EPA 150.1	MA/SC	08/08/89
pH (lab A)	6.1	NA	EPA 150.1	MM	08/08/89
pH (lab B)	6.2	NA	EPA 150.1	MM	08/08/89
pH (lab C)	6.1	NA	EPA 150.1	MM	08/08/89
pH (lab D)	6.2	NA	EPA 150.1	MM	08/08/89
Phenols (4-AAP)	0.02	0.005	EPA 420.1	TS	08/25/89
Potassium (K) *	0.6	0.1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	479	NA	EPA 120.1	MA/SC	08/08/89
Specific Conductance (lab A)	474	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab B)	481	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab C)	482	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab D)	477	NA	EPA 120.1	MM	08/08/89
Sulfate (SO_4) *	800	100	EPA 375.4	SW	08/25/89
Temperature, °C (field)	17.3	NA	EPA 170.1	MA/SC	08/08/89
Total Dissolved Solids *	347	1	EPA 160.1	CL	08/16/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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REPORT OF ANALYSIS

ORIGINAL (RED)

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #24

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	15	1	EPA 415.1	TS	08/14/89
Total Organic Carbon (B) *	15	1	EPA 415.1	TS	08/14/89
Total Organic Carbon (C) *	15	1	EPA 415.1	TS	08/14/89
Total Organic Carbon (D) *	15	1	EPA 415.1	TS	08/14/89
Total Organic Halogen (A)	0.46	0.02	EPA 9020	CM	08/19/89
Total Organic Halogen (B)	0.18	0.04	EPA 9020	CM	08/19/89
Total Organic Halogen (C)	0.24	0.02	EPA 9020	CM	08/19/89
Total Organic Halogen (D)	0.17	0.02	EPA 9020	CM	08/19/89
Toxaphene	ND	0.06	EPA 8080	GD/RJ	08/18/89
2,4-D	ND	0.003	EPA 8150	GD/RJ	08/16/89
2,4,5-TP (Silvex)	ND	0.0005	EPA 8150	GD/RJ	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.

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REPORT OF ANALYSIS

ORIGINAL (RED)

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 25 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #25

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	120	2	EPA 325.3	RAH	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Endrin	ND	0.001	EPA 8080	GD/RJ	08/18/89
Ground Water Elevation (field)	26.9	NA	NA	MA/SC	08/08/89
Iron (Fe) *	0.39	0.01	EPA 236.1	KG	08/21/89
Lindane	ND	0.001	EPA 8080	GD/RJ	08/18/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.01	EPA 8080	GD/RJ	08/18/89
pH (field)	6.7	NA	EPA 150.1	MA/SC	08/08/89
pH (lab A)	7.9	NA	EPA 150.1	MM	08/08/89
pH (lab B)	6.8	NA	EPA 150.1	MM	08/08/89
pH (lab C)	7.2	NA	EPA 150.1	MM	08/08/89
pH (lab D)	7.1	NA	EPA 150.1	MM	08/08/89
Phenols (4-AAP)	0.20	0.005	EPA 420.1	TS	08/25/89
Potassium (K) *	19.4	0.1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	684	NA	EPA 120.1	MA/SC	08/08/89
Specific Conductance (lab A)	821	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab B)	810	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab C)	808	NA	EPA 120.1	MM	08/08/89
Specific Conductance (lab D)	806	NA	EPA 120.1	MM	08/08/89
Sulfate (SO_4) *	360	50	EPA 375.4	SW	08/25/89
Temperature, °C (field)	18.4	NA	EPA 170.1	MA/SC	08/08/89
Total Dissolved Solids *	761	1	EPA 160.1	CL	08/16/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

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Laboratory Director
Irving M. Kipnis, Ph.D.

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INAL
(RED)

REPORT OF ANALYSIS

Report No. 89-08-198 Report Date: September 12, 1989

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Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #25

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	65	1	EPA 415.1	MM	08/15/89
Total Organic Carbon (B) *	61	1	EPA 415.1	MM	08/15/89
Total Organic Carbon (C) *	60	1	EPA 415.1	MM	08/15/89
Total Organic Carbon (D) *	62	1	EPA 415.1	MM	08/15/89
Total Organic Halogen (A)	160	2.0	EPA 9020	CM	08/19/89
Total Organic Halogen (B)	1.08	20	EPA 9020	CM	08/19/89
Total Organic Halogen (C)	134	10	EPA 9020	CM	08/19/89
Total Organic Halogen (D)	129	10	EPA 9020	CM	08/19/89
Toxaphene	ND	0.03	EPA 8080	GD/RJ	08/18/89
2,4-D	ND	0.007	EPA 8150	GD/RJ	08/16/89
2,4,5-TP (Silvex)	ND	0.004	EPA 8150	GD/RJ	08/16/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.

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ORIGINAL (RED)

REPORT OF ANALYSIS

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 27 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #27

	Results	Detection Limits	Method	Analyst	Date Test Completed
Cadmium (Cd) *	ND	0.01	EPA 213.1	KG	08/21/89
Chloride (Cl) *	1900	25	EPA 325.3	RAH	08/10/89
Chromium (Cr), Total *	ND	0.05	EPA 218.1	KG	08/21/89
Endrin	ND	0.002	EPA 8080	GD/RJ	08/22/89
Ground Water Elevation (field)	2.4	NA	NA	TS/SC	08/09/89
Iron (Fe) *	916	1	EPA 236.1	KG	08/21/89
Lindane	ND	0.001	EPA 8080	GD/RJ	08/22/89
Mercury (Hg) *	ND	0.005	EPA 245.1	FK	08/15/89
Methoxychlor	ND	0.005	EPA 8080	GD/RJ	08/22/89
pH (field)	5.3	NA	EPA 150.1	TS/SC	08/09/89
pH (lab A)	5.4	NA	EPA 150.1	CM	08/09/89
pH (lab B)	5.4	NA	EPA 150.1	CM	08/09/89
pH (lab C)	5.3	NA	EPA 150.1	CM	08/09/89
pH (lab D)	5.3	NA	EPA 150.1	CM	08/09/89
Phenols (4-AAP)	0.04	0.005	EPA 420.1	TS	08/25/89
Potassium (K) *	190	1	EPA 258.1	KG	08/21/89
Specific Conductance (field)	8200	NA	EPA 120.1	TS/SC	08/09/89
Specific Conductance (lab A)	8490	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab B)	8530	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab C)	8490	NA	EPA 120.1	MM	08/09/89
Specific Conductance (lab D)	8450	NA	EPA 120.1	MM	08/09/89
Sulfate (SO_4) *	4000	500	EPA 375.4	SW	08/25/89
Temperature, °C (field)	18.8	NA	EPA 170.1	TS/SC	08/09/89
Total Dissolved Solids *	6900	2	EPA 160.1	CL	08/16/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.
(5) *-Specific Conductance expressed as micromhos/cm.

Irving M. Kipnis

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REPORT OF ANALYSIS

ORIGINAL
(RED)

Report No. 89-08-198 Report Date: September 12, 1989

Report To: FMC Corporation Page: 28 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 8/8/89 and 8/9/89 at the Patapsco Avenue location.

Well Number: #27

	Results	Detection Limits	Method	Analyst	Date Test Completed
Total Organic Carbon (A) *	430	10	EPA 415.1	MM	08/16/89
Total Organic Carbon (B) *	430	10	EPA 415.1	MM	08/16/89
Total Organic Carbon (C) *	420	10	EPA 415.1	MM	08/16/89
Total Organic Carbon (D) *	420	10	EPA 415.1	MM	08/16/89
Total Organic Halogen (A)	6.7	1	EPA 9020	CM	08/22/89
Total Organic Halogen (B)	7.2	1	EPA 9020	CM	08/22/89
Total Organic Halogen (C)	6.7	1	EPA 9020	CM	08/22/89
Total Organic Halogen (D)	7.8	1	EPA 9020	CM	08/22/89
Toxaphene	ND	0.03	EPA 8080	GD/RJ	08/22/89
2,4-D	ND	0.001	EPA 8150	GD/RJ	08/17/89
2,4,5-TP (Silvex)	ND	0.001	EPA 8150	GD/RJ	08/17/89

Notes: (1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) *-Analyses performed on filtered (0.45 micron) sample.

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Irving M. Kipnis, Ph.D.

STATE OF MARYLAND
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
Laboratories Administration
201 W. Preston St.
P.O. Box 2355, Baltimore, Maryland 21203
J. Mehsen Joseph, Ph.D., Director

LAB NO. [illegible] (RED)

HAZARDOUS WASTE LABORATORY
Metals Analysis Report Form

PRIORITY ASAP

Collector [illegible] 1330 8/23/89 (Name/Time/Date) Sample Source FMC TANK T-357F

Sample ID No. FMC 001 Preservative Used IONS

Sample Alert PH ~13 INORGANICS

Specify Program:
RCRA: ✓ NPDES: _____ OTHER: _____

Chain of Custody Sample Possession:
From: [illegible] 1400 8/23/89 (Name/Time/Date) To: James Rude 14:40 8-23-89 (Name/Time/Date)

From: _____ (Name/Time/Date) To: _____ (Name/Time/Date)

Circle Type of Analysis:
1. EP Toxicity 2. Priority Pollutant 3. Total Metals 4. Dissolved Metals

Indicate Type of Sample:
Liquid _____ Solid ✓ Percent Solids 61.6 %

Metals in ppm
(Totals as is)

	Element	EP	Total
	Antimony		
X	Arsenic	<0.001	2.65
	Barium		
	Beryllium		
X	Cadmium	0.09	2.7
X	Chromium	<0.5	92
X	Copper	320	40,260
	Iron		
X	Lead	<0.5	43
X	Mercury	<0.001	0.25
	Nickel		
	Selenium		
	Silver		
	Thallium		
	Zinc		
	Chromium Cr+6		

	Element	EP	Total
	Aluminum		
	Calcium		
	Cobalt		
	Magnesium		
	Manganese		
	Potassium		
	Sodium		
	Vanadium		

SELECT OTHER ELEMENTS FROM REVERSE SIDE OF THIS FORM

Section Chief: DC Date: 9-25-89 Verified By: mg Authorized By: _____

State Of Maryland
Department of the Environment Administration
Hazardous and Solid Waste Management
2500 BROENING HWY BALTIMORE MD 21224

YR MO DY: 89 | 01 | 9 | 25

(ORIGINAL (RED))

CHS/Inspection Form
Generators/TSD Facilities

TIME: 1100

EPA ID Number: MDD003071875

TELEPHONE: 301-355-6400

GENERAL SITE INSPECTION INFORMATION FORM

A. Site Name: FMC
B. Street (or other identifier): 1701 E. PATAPSCO AVE
C. City: BALTIMORE
D. State: MD
E. Zip Code: 21203
F. County Name:

G. Site Operator Information: SAME
1. Name
2. Telephone Number
3. Street
4. City
5. State
6. Zip Code

H. Site Description: MANUFACTURE PESTICIDES & INTERMEDIATES

I. Type of Ownership
__1. Federal __2. State __3. County __4. Municipal X5. Private

J.
X1. Generator __2. Transporter __3. Treatment X4. Storage X5. Disposal

K. Regulatory Status
__1. Interim Status __3. Part B Permit Application Submitted
X2. Permitted Facility __4. Part B Permit Application in Preparation

L.
1. Principal Inspector Name: J LEIZEAR
2. Title: PHS
3. Organization: MDE/HSWMA
4. Telephone No. (area code and No.): 301 631 3400

M. Inspection Participants

1. J LEIZEAR - MDE	6.
2. J GIBBLIN & FMC	7.
3. K KRAMER &	8.
4.	9.
5.	10.

EXHIBIT IV-2

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GENERAL FACILITY CHECKLIST

Section A - General Facility Standards

1. Does facility have EPA Identification No.? ✓ Yes __ No

   a. If yes, EPA I.D. No. MDD003071875
      If no, explain. _____

2. Has facility received hazardous waste from a foreign source? __ Yes ✓ No

   a. If yes, has it filed a notice with the Regional Administrator? __ Yes __ No

Waste Analysis

3. Does facility maintain a copy of the waste analysis plan at the facility? ✓ Yes __ No

   a. If yes, does it include:

      1. Parameters for which each waste will be analyzed? ✓ Yes __ No
      2. Test methods used to test for these parameters? ✓ Yes __ No
      3. Sampling method used to obtain sample? ✓ Yes __ No
      4. Frequency with which the initial analyses will be reviewed or repeated? ✓ Yes __ No
      5. (For offsite facilities) waste analyses that generators have agreed to supply? ✓ Yes __ No
      6. (For offsite facilities) procedures which are used to inspect and analyze each movement of hazardous waste, including:

         a. Procedures to be used to determine the identity of each movement of waste. ✓ Yes __ No
         b. Sampling method to be used to obtain representative sample of the waste to be identified. ✓ Yes __ No

4. Does the facility provide adequate security through:

   a. 24-hour surveillance system (e.g., television monitoring or guards)? ✓ Yes __ No

      OR

(continued)

ORIGINAL (RED)

EXHIBIT IV-2 (continued)

b. 1. Artificial or natural barrier around facility (e.g., fence or fence and cliff)? ✓ Yes __ No

Describe FENCE

AND

2. Means to control entry through entrances (e.g., attendant, television monitors, locked entrance, controlled roadway access)? ✓ Yes __ No

Describe GATE / ATTENDANT

General Inspection Requirements

5. Does the owner/operator maintain a written schedule at the facility for inspecting:

a. Monitoring equipment? ✓ Yes __ No
b. Safety and emergency equipment? ✓ Yes __ No
c. Security devices: ✓ Yes __ No
d. Operating and structural equipment? ✓ Yes __ No
e. Types of problems of equipment:

1. Malfunction ✓ Yes __ No
2. Operator error ✓ Yes __ No
3. Discharges ✓ Yes __ No

6. Does the owner/operator maintain an inspection log? ✓ Yes __ No

a. If yes, does it include:

1. Date and time of inspection? ✓ Yes __ No
2. Name of inspector? ✓ Yes __ No
3. Notation of observations? ✓ Yes __ No
4. Date and nature of repairs or remedial action? ✓ Yes __ No

b. Are there any malfunctions or other deficiencies not corrected? (Use narrative explanation sheet.) __ Yes ✓ No

Personnel Training

7. Does the owner/operator maintain personnel training records at the facility? ✓ Yes __ No

(continued)

ORIGINAL (RED)

EXHIBIT IV-2 (continued)

How long are they kept? INDEFINITELY

a. If yes, do they include:

1. Job title and written job description of each position? ✓Yes __No
2. Description of type and amount of training? ✓Yes __No
3. Records of training given to facility personnel? ✓Yes __No

Requirements for Ignitable, Reactive, or Incompatible Waste

8. Does facility handle ignitable or reactive wastes? ✓Yes __No

a. If yes, is waste separated and confined from sources of ignition or reaction (open flames, smoking, cutting and welding, hot surfaces, frictional heat), sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat?

1. If yes, use narrative explanation sheet to describe separation and confinement procedures.
2. If no, use narrative explanation sheet to describe sources of ignition or reaction.

b. Are smoking and open flame confined to specifically designated locations? ✓Yes __No

c. Are "No Smoking" signs posted in hazardous areas? ✓Yes __No

d. Are precautions documented (Part 264 only)? ✓Yes __No

9. Check containers

a. Are containers leaking or corroding? ✓Yes __No

b. Is there evidence of heat generation from incompatible wastes? __Yes ✓No

Section B - Preparedness and Prevention

1. Is there evidence of fire, explosion, or contamination of the environment? __Yes ✓No

If yes, use narrative explanation sheet to explain.

(continued)

ORIGINAL (RED)

EXHIBIT IV-2 (continued)

2. Is the facility equipped with:

   a. Internal communication or alarm system? ✓ Yes __ No

      1. Is it easily accessible in case of emergency? ✓ Yes __ No

   b. Telephone or two-way radio to call emergency response personnel? ✓ Yes __ No

   c. Portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment? ✓ Yes __ No

   d. Water of adequate volume for hoses, sprinklers, or water spray system? ✓ Yes __ No

      1. Describe source of water BALT CITY SYSTEM

3. Is there sufficient aisle space to allow unobstructed movement of personnel and equipment? __ Yes ✓ No

4. Has the owner/operator made arrangements with the local authorities to familiarize them with characteristics of the facility? (Layout of facility, properties of hazardous waste handled and associated hazards, places where facility personnel would normally be working, entrances to roads inside facility, possible evacuation routes.) ✓ Yes __ No

5. In the case that more than one police or fire department might respond, is there a designated primary authority? __ Yes __ No NA

   a. If yes, name primary authority _____

6. Does the owner/operator have phone numbers of and agreements with State emergency response teams, emergency response contractors, and equipment suppliers? ✓ Yes __ No

   a. Are they readily available to all personnel? ✓ Yes __ No

7. Has the owner/operator arranged to familiarize local hospitals with the properties of hazardous waste handled and types of injuries that could result from fires, explosions, or releases at the facility? ✓ Yes __ No

8. If State or local authorities decline to enter, is this entered in the operating record? __ Yes __ No ND

(continued)

ORIGINAL (RED)

EXHIBIT IV-2 (continued)

Section C - Contingency Plan and Emergency Procedures

1. Is a contingency plan maintained at the facility? ✓ Yes __ No

   a. If yes, is it a revised SPCC Plan? ✓ Yes __ No

   b. Does contingency plan include:

      1. Arrangements with local emergency response organizations? ✓ Yes __ No
      2. Emergency coordinators' names, phone numbers, and addresses? ✓ Yes __ No
      3. List of all emergency equipment at facility and descriptions of equipment? ✓ Yes __ No
      4. Evacuation plan for facility personnel? ✓ Yes __ No

2. Is there an emergency coordinator on site or on call at all times? __ Yes __ No

Section D - Manifest System, Recordkeeping, and Reporting

1. Does facility receive waste from offsite? __ Yes ✓ No

   a. If yes, does the owner/operator retain copies of all manifests? __ Yes __ No

      1. Are the manifests signed and dated and returned to the generator? __ Yes __ No
      2. Is a signed copy given to the transporter? __ Yes __ No

2. Does the facility receive any waste from a rail or water (bulk shipment) transporter? __ Yes ✓ No

   a. If yes, is it accompanied by a shipping paper? __ Yes __ No

      1. Does the owner/operator sign and date the shipping paper and return a copy to the generator? __ Yes __ No
      2. Is a signed copy given to the transporter? __ Yes __ No

3. Has the owner/operator received any shipments of waste that were inconsistent with the manifest (manifest discrepancies)? __ Yes ✓ No

   a. If yes, has he attempted to reconcile the discrepancy with the generator and transporter? __ Yes __ No

      1. If no, has Regional Administrator been notified? __ Yes __ No

(continued)

EXHIBIT IV-2 (continued)

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4. Does the owner/operator keep a written operating record at the facility? ✓Yes __No

   a. If yes, does it include:

      1. Description and quantity of each hazardous waste received? ✓Yes __No
      2. Methods and dates of treatment, storage, and disposal? ✓Yes __No
      3. Location and quantity of each hazardous waste at each location? ✓Yes __No
      4. Cross-references to manifests/shipping papers? ✓Yes __No
      5. Records and results of waste analyses? ✓Yes __No
      6. Report of incidents involving implementation of the contingency plan? ✓Yes __No
      7. Records and results of required inspections? ✓Yes __No
      8. Monitoring or testing analytical data (Part 264)? ✓Yes __No
      9. Closure cost estimates and, for disposal facilities, post-closure cost estimates (Part 264)? ✓Yes __No
      10. Notices of generators as specified in §264.12(b) (Part 264)? __Yes __No N/A

5. Does the facility submit a biennial report by March 1 every even-numbered year? ✓Yes __No

   a. If yes, do reports contain the following information:

      1. EPA I.D. number? ✓Yes __No
      2. Date and year covered by report? ✓Yes __No
      3. Description/quantity of hazardous waste? ✓Yes __No
      4. Treatment, storage, and disposal methods? ✓Yes __No
      5. Monitoring data under §265.94(a)(2) and (b)(2) (Part 265)? __Yes __No
      6. Most recent closure and post-closure cost estimates? ✓Yes __No
      7. For TSD generators, description of efforts to reduce volume/toxicity of waste generated, and actual comparisons with previous year? __Yes __No
      8. Certification signed by owner/operator? ✓Yes __No

6. Has the facility received any waste (that does not come under the small generator exclusion) not accompanied by a manifest? __Yes ✓No

   a. If yes, has he submitted an unmanifested waste report to the Regional Administrator? __Yes __No

7. Does the facility submit to the Regional Administrator reports on releases, fires, and explosions; contamination and monitoring data; and facility closure? ✓Yes __No

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EXHIBIT IV-4

GENERATOR'S CHECKLIST

Section A - EPA Identification No.

1. Does generator have EPA I.D. No? ✓ Yes __ No

   a. If yes, EPA I.D. No. MDD003071875

Section B - Manifest

1. Does generator ship waste offsite? ✓ Yes __ No

   a. If no, do not fill out Sections B and D.

   b. If yes, identify primary offsite facility(s). Use narrative explanation sheet.

2. Does generator use manifest? ✓ Yes __ No

   a. If no, is generator a small quantity generator (generating between 100 and 1000 kg/month)? __ Yes __ No

      1. If yes, does generator indicate this when sending waste to a TSD facility? __ Yes __ No

   b. If yes, does manifest include the following information?

      1. Manifest document No. ✓ Yes __ No

      2. Generator's name, mailing address, telephone No. ✓ Yes __ No

      3. Generator EPA I.D. No. ✓ Yes __ No

      4. Transporter Name(s) and EPA I.D. No.(s) ✓ Yes __ No

      5. a. Facility name, address, and EPA I.D. No. ✓ Yes __ No
         b. Alternate facility name, address, and EPA I.D. No. __ Yes ✓ No
         c. Instructions to return to generator if undeliverable ✓ Yes __ No

      6. Waste information required by DOE - shipping name, quantity (weight or vol.), containers (type and number) ✓ Yes __ No

(continued)

EXHIBIT IV-4 (continued)

7. Emergency information (optional) (special handling instructions, telephone No.) — ✓ Yes __ No

8. Is the following certification on each manifest form? — ✓ Yes __ No

   This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the EPA.

9. Does generator retain copies of manifests? — ✓ Yes __ No

If yes, complete a through e.

a. 1. Did generator sign and date all manifests? — ✓ Yes __ No
   2. Who signed for generator?

   Name _____ Title _____

b. 1. Did generator obtain handwritten signature and date of acceptance from initial transporter? — ✓ Yes __ No
   2. Who signed and dated for transporter?

   Name _____ Title _____

c. Does generator retain one copy of manifest signed by generator and transporter? — ✓ Yes __ No

d. Do returned copies of manifest include facility owner/operator signature and date of acceptance? — ✓ Yes __ No

e. Does generator retain copies for 3 years? — ✓ Yes __ No

Section C - Hazardous Waste Determination

1. Does generator generate solid waste(s) listed in Subpart D (List of Hazardous Waste)? — ✓ Yes __ No

   a. If yes, list waste and quantities (include EPA Hazardous Waste No.) _____

(continued)

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EXHIBIT IV-4 (continued)

2. Does generator generate solid waste(s) listed in Subpart C that exhibit hazardous characteristics? (corrosivity, ignitability, reactivity, EP toxicity) ✓ Yes __ No

   a. If yes, list wastes and quantities (include EPA Hazardous Waste No.) _____

   b. Does generator determine characteristics by testing or by applying knowledge of processes? _____

      1. If determined by testing, did generator use test methods in Part 261, Subpart C (or equivalent)? __ Yes __ No

         a. If equivalent test methods used, attach copy of equivalent methods used.

3. Are there any other solid wastes generated by generators? ✓ Yes __ No

   a. If yes, did generator test all wastes to determine nonhazardous characteristics? ✓ Yes __ No

      1. If no, list wastes and quantities deemed nonhazardous or processes from which nonhazardous waste was produced (use additional sheet if necessary).

_____

_____

_____

Section D - Pretransport Requirements

1. Does generator package waste in accordance with 49 CFR 173, 178, and 179 (DOT requirements)? ✓ Yes __ No

2. a. Are containers to be shipped leaking or corroding? ✓ Yes __ No
   ONE DRUM/BLOG 34 PAD
   b. Use sheet to describe containers and condition.
   c. Is there evidence of heat generation from incompatible wastes in the containers? __ Yes ✓ No

3. Does generator follow DOT labeling requirements in accordance with 49 CFR 172? ✓ Yes __ No

4. Does generator mark each package in accordance with 49 CFR 172? ✓ Yes __ No

(continued)

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EXHIBIT IV-4 (continued)

5. Is each container of 110 gallons or less marked with the following label? __Yes ✓No

Label saying: HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest policy or public safety authority or the U.S. Environmental Protection Agency.

Generator name(s) and address(es) _____

_____

Manifest document No. _____ _____

6. Does generator have placards to offer to transporters? __Yes ✓No

7. Accumulation time

a. Are containers used to temporarily store waste before transport? ✓Yes __No

1. If yes, is each container clearly dated: Also, fill out rest of No. 7 (accum. time) ✓Yes __No

b. 1. Does generator inspect containers for leakage or corrosion? (265.174 - Inspections) ✓Yes __No

2. If yes, with what frequency? DAILY

c. Does generator locate containers holding ignitable or reactive waste at least 15 meters (50 feet) from the facility's property line? (265.176 - Special Requirements for Ignitable or Reactive Wastes) ✓Yes __No

NOTE: If tanks are used, fill out checklist for tanks.

d. Are the containers labeled and marked in accordance with Section D-3, -4, and -5 of this form? ✓Yes __No

NOTE: If generator accumulates waste on site, fill out checklist for General Facilities, Subparts C and D.

e. Does generator comply with requirements for personnel training? (Attach checklist for 265.16 - Personnel Training.) ✓Yes __No

8. Describe storage area. Use photos and narrative explanation sheet.

(continued)

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EXHIBIT IV-4 (continued)

Section E - Recordkeeping and Records

1. Does generator keep the following reports for 3 years?

a.	Manifests and signed copies from designated facilities	✓ Yes __ No
b.	Annual reports	✓ Yes __ No
c.	Exception reports	✓ Yes __ No
d.	Test results	✓ Yes __ No

2. Where are the records kept (at facility or elsewhere)? @ FACILITY

3. Who is in charge of keeping the records?

Name _____ Title _____

Section F - Special Conditions

1.	Has generator received from or transported to a foreign source any hazardous waste?	__ Yes ✓ No
a.	If yes, has he filed a notice with the Regional Administrator?	__ Yes __ No
b.	Is this waste manifested and signed by a foreign cosignee?	__ Yes __ No
c.	If generator transported wastes out of the country, has he received confirmation of delivered shipment?	__ Yes __ No

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EXHIBIT IV-6

CONTAINERS CHECKLIST

Section A - Use and Management

1. Are containers in good condition? ✓Yes __No
XONE LEAKAGE/OVERFLOW BLDG 34 PAD

Section B - Compatibility of Waste With Container

1. Is container made of a material that will not react with the waste which it stores? ✓Yes __No

Section C - Management of Containers

1. Is container always closed while holding hazardous waste? ✓Yes __No

2. Is container handled so that it will not be opened, handled, or stored in a manner which may rupture it or cause it to leak? ✓Yes __No

Section D - Inspections

1. Does owner/operator inspect containers at least weekly for leaks and deterioration? ✓Yes __No

Section E - Containment (Part 264)

1. Do container storage areas have a containment system? ✓Yes __No

Section F - Ignitable and Reactive Waste

1. Are containers holding ignitable and reactive waste located at least 15 m (50 ft) from facility property lines? ✓Yes __No

Section G - Incompatible Waste

1. Are incompatible wastes or materials placed in the same containers? __Yes ✓No

2. Are hazardous wastes placed in washed, clean containers when they previously held incompatible waste? __Yes __No NA

(continued)

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EXHIBIT IV-6 (continued)

3. Are incompatible hazardous wastes separated from each other by a berm, dike, wall, or other device? ✓ Yes __No

Section H - Closure (Part 264)

1. At closure, were all hazardous wastes and associated residues removed from the containment system? __Yes __No N/A

EXHIBIT IV-11

ORIGINAL (RED)

INCINERATORS CHECKLIST

Section A - Waste Analysis (Part 265 only)

1. Does owner/operator analyze all wastes he has not previously burned to enable him to establish steady-state operating conditions? ✓ Yes __ No

   a. If yes, does analysis include:

      1. Determination of heating value? ✓ Yes __ No
      2. Determination of halogen and sulfur content? ✓ Yes __ No
      3. Concentrations of lead and mercury? __ Yes __ No

   b. If lead and mercury are not included, has owner/operator proven this fact to Regional Administrator? ✓ Yes __ No

2. Does owner/operator perform a waste feed analysis in the Part B application? ✓ Yes __ No

3. Are waste analyses performed throughout normal operations? ✓ Yes __ No

Section B - Principal Organic Hazardous Constituents (POHC's) (Part 264)

1. Does owner/operator use POHC's in accordance with facility's permit specifications? ✓ Yes __ No

Section C - Performance Standards (Part 264)

1. Does incinerator burn at a destruction and removal efficiency (DRE) of at least 99.9999 percent for each POHC? ✓ Yes __ No

2. Do stack emissions of more than 1.8 kg/h of HCl exceed both 1.8 kg/h and 1 percent HCl in the stack? __ Yes ✓ No

3. Does incinerator emit particulates greater than 180 mg/dry standard cubic meter? __ Yes ✓ No

Section D - Permits

1. Are wastes burned although no permit is issued (Part 264? __ Yes ✓ No

(continued)

EXHIBIT IV-11 (continued)

a. If yes, are wastes burned in a trial burn (Part 264)? __Yes __No

OR

b. Does owner/operator have an exemption due to 264.340 (Part 264) __Yes ✓No

c. Does owner/operator burn hazardous waste during startup or shutdown if not allowed to do so in permit (Part 264)? __Yes ✓No

d. Is waste feed cut off when operating requirements are not met (Part 264)? ✓Yes __No

Section E - Operating Requirements

1. Does incinerator operate per permit requirements (Part 264)? ✓Yes __No

2. Does owner/operator feed hazardous waste into incinerator when it is not at steady state (Part 265)? __Yes ✓No

Section F - Monitoring and Inspections

1. Does owner/operator conduct, at a minimum, the following:

a. Existing instruments relating to combustion or emission control every 15 minutes (Part 265)? ✓Yes __No

b. Is complete incinerator and associated equipment inspected daily for leaks, spills, and emissions, and are all emergency shutdown controls and system alarms checked (Part 265)? ✓Yes __No

c. Are combustion temperature, waste feed rate, and combustion gas velocity all checked continuously (Part 264)? ✓Yes __No

d. Is CO monitored continuously (Part 264)? ✓Yes __No

e. Are waste and exhaust emissions sampled and analyzed (Part 264)? ✓Yes __No

f. Is incinerator usually checked daily for leaks and spills (Part 264)? ✓Yes __No

(continued)

EXHIBIT IV-11 (continued)

g. Are emergency feed cutoff and alarms inspected weekly (Part 264)? ✓ Yes __ No

h. Are monitoring and inspection data recorded and placed in operating log (Part 264)? ✓ Yes __ No

Section G - Closure

1. Is a closure plan kept on site? ✓ Yes __ No

2. At closure, has owner/operator removed all hazardous waste residues from incinerator? __ Yes __ No N/A

Section H - Interim Status (Part 265)

1. Does owner/operator burn F020, F021, F022, F023, F026, and/or F027 wastes? __ Yes ✓ No

   a. If yes, does owner/operator possess certification from Assistant Administrator for Solid Waste and Emergency Response to do so? __ Yes __ No

TANKS CHECKLIST

ORIGINAL (RED)

1. Are all tanks in good condition, i.e., no signs of leakage, corrosion, or other deterioration? ✓ Yes __ No

2. Are all uncovered tanks operated to ensure a minimum of two feet of freeboard? __ Yes __ No NA

   If not, is the tank equipped with a containment structure (e.g., dike or trench), a drainage control system, or a diversion structure (e.g., a standby tank) with capacity that equals or exceeds the volume of the top 2 feet of the tank? __ Yes __ No

3. Are tanks with continuous inflow of hazardous waste equipped with a means to stop this inflow (e.g., waste feed cutoff system or by-pass to a standby tank)? ✓ Yes __ No

4. Are waste analyses conducted or written documentation obtained before placing a substantially different hazardous waste into the tank used for storage or treatment? ✓ Yes __ No

5. Are daily inspections conducted for discharge control equipment (e.g., by-pass systems, waste feed cutoff systems and drainage systems)? ✓ Yes __ No

6. Is data gathered from monitoring equipment (e.g., pressure and temperature gauges) at least once a day? ✓ Yes __ No

7. Is the level of waste in the tank checked at least once each operating day? ✓ Yes __ No

8. Is (are) the tank(s) inspected weekly to detect corrosion or leaking of fixtures or seams? ✓ Yes __ No

9. Are the results of these inspections recorded in an inspection log or summary? ✓ Yes __ No

10. Are ignitable or reactive wastes stored in in the tanks? ✓ Yes __ No

    a. Is the waste treated, rendered, or mixed before or immediately after placement in the tank so that the resulting waste, mixture, or dissolution of materials no longer meets the definition of ignitable or reactive wastes under Parts 261.21 or 261.23 or the RCRA regulations? __ Yes ✓ No

    b. Is the waste stored or treated in such a way that it is protected from material or conditions which may cause the waste to ignite or react? ✓ Yes __ No

c. Is owner/operator of a facility which treats or stores ignitable or reactive wastes in covered tanks in compliance with the National Fire Protection Association's (NEPA's) buffer zone requirements for tanks contained in tables 2-1 through 2-6 of the "Flammable and Combustible Code-1977"? ✓ Yes __No

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11. Has a precision test ever been performed on on the tank? SOME TANKS ARE TESTED. ✓ Yes __No

If Yes, describe the results on the narrative sheet.

FMC Corporation

Agricultural Chemical Group
1701 East Patapsco Avenue Box 1616
Baltimore Maryland 21203
(301) 355 6400

ORIGI
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FMC

July 14, 1989

Mr. Brian English
Maryland Department of the Environment
Waste Management Administration
2500 Broening Highway
Baltimore, Maryland 21224

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Dear Mr. English:

As per the requirement of Section I, Special Condition A of the Baltimore Plant's CHS Permit No. A-023 (EPA I.D. No. MDD003071875), attached is the second quarter, 1989 listing the quantities of materials stored and incinerated on site.

Also, per the General Conditions of the CHS Permit and our Consent Order of January 13, 1986, attached are the sampling and analytical results of the groundwater monitoring program for the second quarter.

Also, pursuant to Part III G of the Permit, attached are descriptions of deviations from the incinerator operating conditions specified in Part III C of the Permit for the second quarter.

If you have any questions about the report, please do not hesitate to contact me.

Sincerely yours,

Kurt Krammer

Kurt Krammer
Environmental Engineer

KK:jp

RECEIVED
JUL 17 1989
HSWMA
ENFORCEMENT PROGRAM

cc: Michael Freiheiter - Federal Environmental Protection Agency
[redacted] - Maryland Department of the Environment
James F. Xavier - Maryland Department of the Environment

ORIGINAL
(RED)

FMC - Baltimore, Maryland
Second Quarter, 1989 Report

CHS FACILITY PERMIT A-023

In accordance with Part III. G. of the subject permit, listed below are descriptions of deviations from permit conditions which occurred from April 1 to June 30, 1989.

1) 4/12 While burning MAC heels, caustic flow to the scrubber was cut off while the caustic line was being repaired. This caused the scrubber pH to drop below the permit condition. The incinerator was shut down during the remainder of the caustic line repairs.

Start 07:23
Duration 11m 33s
Min. pH 2.5

2) 5/25 While manually adjusting caustic flow to the pH adjustment tank, the flow of caustic was reduced excessively and the scrubber pH dropped below the permit condition.

Start 15:13
Duration 11m 52s
Min. pH 2.7

3) 6/8 While burning Plant 4 tar, the WESP make-up water flow dropped below the permit condition. The incinerator was then shut down. The problem was due to a malfunctioned flow controller, which was repaired prior to resuming operations.

Start 02:23
Duration 1m 32s
Min. flow 12 gpm

4) 6/17 While burning a mixture of MAC heels and Basin Oils, the flowrate become erratic and exceeded the flow condition. The erratic flow was due to the variable viscosity of the non-homogeneous mixture. The feed was switched while the waste was better mixed.

Start 14:33
Duration 1m 59s
Max. flow 3700 lb/hr.

5) 6/19 The same problem and remedy as occurred on 6/17. The flow controller was also cleaned.

Start 14:33
Duration 3m 3s
Max. flow 4200 lb/hr.

6) 6/24 While burning a mixture of MAC heels and Basin Oil, the flow spiked upward for unknown reasons. The flow controller setpoint was lowered to remedy the problem.

Start 09:54
Duration 1m 4s
Max. Flow 3100 lb/hr.

ORIGINAL (RED)

FMC - Baltimore, Maryland
Second Quarter, 1989 Report

CHS FACILITY PERMIT A-023

Special Condition A

Materials Incinerated On-Site

	Quantity (Tons)
7-Hydroxy Tar (Plant 3)	0
Claisen Tar	0
Plant 4 Waste	1,219
Methallyl Chloride Waste	471
DV Ester Methanol & Chloroacetylenics	795
Basin Oil	64

Materials Stored On-Site

P_2S_5	.360 Tons
Glassware	1.9 Tons
Hazardous Waste	176 Tons

Gascoyne Laboratories Inc.
Baltimore, MD 21224-6697
BALTIMORE, M.D.
(301) 285-8510
FAX #
(301) 285-0815

ORIGINAL (RED)

REPORT OF ANALYSIS

Report No. 89-05-087 Report Date: June 20, 1989

Report To: FMC Corporation Page: 1 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 5/3/89 at the Patapsco Avenue location: Well #10

	Results	Detection Limits	Method	Analyst	Date Test Completed
Arsenic (As)	0.006	0.005	206.2	BH	05/17/89
Barium (Ba)	ND	0.5	208.1	KG	05/23/89
Cadmium (Cd)	ND	0.01	213.1	KG	05/22/89
Calcium (Ca)	1000	10	215.1	KG	05/23/89
Chloride (Cl)	7600	50	325.3	SW	05/08/89
Chromium (Cr), Total	ND	0.05	218.1	KG	05/22/89
Coliform Bacteria	ND	2	908A	MM	05/05/89
Endrin	ND	0.0005	8080	GD	05/24/89
Fluoride (F)	0.07	0.05	340.2	RAH	05/08/89
Gross Alpha, pCi/liter	205	2	SC	SC	SC
Gross Beta, pCi/liter	794	2	SC	SC	SC
Ground Water Elevation	6.4	NA	NA	MA/SJ	05/02/89
Iron (Fe)	230	1	236.1	KG	05/22/89
Lead (Pb)	0.12	0.05	239.1	KG	05/22/89
Lindane	ND	0.0005	8080	GD	05/24/89
Magnesium (Mg)	900	10	242.1	KG	05/23/89
Manganese (Mn)	3.09	0.01	243.1	KG	05/22/89
Mercury (Hg)	ND	0.005	245.1	FK	05/19/89
Methoxychlor	ND	0.005	8080	GD	05/24/89
Nitrate (N)	ND	10	353.2	MM	05/11/89
pH (field)	6.2	NA	150.1	SJ/EH	05/03/89
pH (lab A)	6.6	NA	150.1	MM	05/03/89
pH (lab B)	6.6	NA	150.1	MM	05/03/89
pH (lab C)	6.6	NA	150.1	MM	05/03/89
pH (Lab D)	6.5	NA	150.1	MM	05/03/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) SC-Sub-contracted.
(5) Coliform results expressed as organisms per 100 ml.
(6) Analysis performed on filtered (0.45 micron) sample where appropriate.

Laboratory Manager
William L. Lock

Please see reverse side for explanations and other information.

Gascoyne Laboratories, Inc.

ORIGINAL (RED)

Baltimore, MD 21224-6697

BALTIMORE, M.D.
(301) 285-8510

FAX #
(301) 285-0815

REPORT OF ANALYSIS

Report No. 89-05-087 Report Date: June 20, 1989

Report To: FMC Corporation Page: 2 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 5/3/89 at the Patapsco Avenue location: Well #10

	Results	Detection Limits	Method	Analyst	Date Test Completed
Phenols	1.7	0.05	420.1	MM/SW	05/10/89
Potassium (K)	1000	1	258.1	KG	05/23/89
Radium	47	1	SC	SC	SC
Selenium (Se)	ND	0.005	270.2	FK	05/16/89
Silver (Ag)	ND	0.01	272.1	KG	05/22/89
Sodium (Na)	520	10	273.1	KG	05/23/89
Specific Conduct. (field)	19700	NA	120.1	SJ/EH	05/03/89
Specific Conduct. (lab A)	19600	NA	120.1	MM	05/03/89
Specific Conduct. (lab B)	19900	NA	120.1	MM	05/03/89
Specific Conduct. (lab C)	19400	NA	120.1	MM	05/03/89
Specific Conduct. (lab D)	19500	NA	120.1	MM	05/03/89
Sulfate (SO_4)	ND	1	375.1	MM	05/08/89
Temperature, °C	17.0	NA	170.1	MA/JJ	05/03/89
Total Dissolved Solids	15000	10	160.1	SW/RAH	05/23/89
Total Organic Carbon (A)	710	0.1	415.1	SC	05/31/89
Total Organic Carbon (B)	720	0.1	415.1	SC	05/31/89
Total Organic Carbon (C)	710	0.1	415.1	SC	05/31/89
Total Organic Carbon (D)	710	0.1	415.1	SC	05/31/89
Total Organic Halogen (A)	60	1	9020	BR	05/11/89
Total Organic Halogen (B)	60	1	9020	BR	05/11/89
Total Organic Halogen (C)	57	1	9020	BR	05/11/89
Total Organic Halogen (D)	61	1	9020	BR	05/11/89
Toxaphene	ND	0.02	8080	GD	05/24/89
2,4-D	ND	0.002	8150	GD	05/19/89
2,4,5-TP (Silvex)	ND	0.001	8150	GD	05/19/89

Notes:
(1) Results are expressed in mg/liter.
(2) ND-Not Detected.
(3) NA-Not Applicable.
(4) SC-Sub-contracted.
(5) Coliform results expressed as organisms per 100 ml.
(6) Analysis performed on filtered (0.45 micron) sample where appropriate.

Laboratory Manager
William L. Lock

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REPORT OF ANALYSIS

Report No. 89-05-087 Report Date: June 20, 1989

Report To: FMC Corporation Page: 3 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 5/3/89 at the Patapsco Avenue location: Well #12

	Results	Detection Limits	Method	Analyst	Date Test Completed
Arsenic (As)	ND	0.005	206.2	BH	05/17/89
Barium (Ba)	ND	0.5	208.1	KG	05/23/89
Cadmium (Cd)	ND	0.01	213.1	KG	05/22/89
Calcium (Ca)	120	1	215.1	KG	05/23/89
Chloride (Cl)	550	10	325.3	SW	05/08/89
Chromium (Cr), Hexavalent	ND	10	312B	CL	05/24/89
Chromium (Cr), Total	ND	0.05	218.1	KG	05/22/89
Coliform Bacteria	ND	2	908A	MM	05/06/89
Copper (Cu)	0.01	0.01	220.1	KG	05/22/89
Fluoride (F)	0.07	0.05	340.2	RAH	05/08/89
Gross Alpha, pCi/liter	ND	2	SC	SC	SC
Gross Beta, pCi/liter	ND	3	SC	SC	SC
Ground Water Elevation	8.3	NA	NA	MA/SJ	05/02/89
Iron (Fe)	21.2	0.1	236.1	KG	05/22/89
Lead (Pb)	0.06	0.05	239.1	KG	05/22/89
Magnesium (Mg)	130	1	242.1	KG	05/23/89
Manganese (Mn)	9.41	0.01	243.1	KG	05/22/89
Mercury (Hg)	ND	0.005	245.1	FK	05/19/89
Nickel (Ni)	0.17	0.02	249.1	KG	05/22/89
Nitrate (N)	ND	0.1	353.2	MM	05/11/89
Palladium (Pd)	ND	0.03	253.1	KG	05/22/89

Notes:
(1) Results are expressed in mg/liter.
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(3) NA-Not Applicable.
(4) SC-Sub-contracted.
(5) Coliform results expressed as organisms per 100 ml.
(6) Analysis performed on filtered (0.45 micron) sample where appropriate.

Laboratory Manager
William L. Lock

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ORIGINAL (RED)

REPORT OF ANALYSIS

Report No. 89-05-087 Report Date: June 20, 1989

Report To: FMC Corporation Page: 4 of 28

Sample I.D. Monitoring Well samples taken by Gascoyne Laboratories, Inc., on 5/3/89 at the Patapsco Avenue location: Well #12

	Results	Detection Limits	Method	Analyst	Date Test Completed
pH (field)	5.8	NA	150.1	SJ/EH	05/03/89
pH (lab A)	6.0	NA	150.1	MM	05/03/89
pH (lab B)	6.0	NA	150.1	MM	05/03/89
pH (lab C)	6.0	NA	150.1	MM	05/03/89
pH (lab D)	5.9	NA	150.1	MM	05/03/89
Phenols	0.18	0.005	420.1	MM/SW	05/10/89
Potassium (K)	5.5	0.1	258.1	KG	05/23/89
Radium, pCi/liter	2	1	SC	SC	SC
Selenium (Se)	ND	0.005	270.2	FK	05/16/89
Silver (Ag)	ND	0.01	272.1	KG	05/22/89
Sodium (Na)	120	1	273.1	KG	05/23/89
Specific Conduct. (field)	2060	NA	120.1	SJ/EH	05/03/89
Specific Conduct. (lab A)	2370	NA	120.1	MM	05/03/89
Specific Conduct. (lab B)	2380	NA	120.1	MM	05/03/89
Specific Conduct. (lab C)	2320	NA	120.1	MM	05/03/89
Specific Conduct. (lab D)	2380	NA	120.1	MM	05/03/89
Sulfate (SO_4)	270	10	375.4	MM	05/08/89
Temperature, °C	13.7	NA	170.1	MA/SJ	05/03/89
Total Dissolved Solids	1500	1	160.1	SW/RAH	05/23/89
Total Organic Carbon (A)	47	0.1	415.1	SC	05/31/89
Total Organic Carbon (B)	47	0.1	415.1	SC	05/31/89
Total Organic Carbon (C)	46	0.1	415.1	SC	05/31/89
Total Organic Carbon (D)	46	0.1	415.1	SC	05/31/89
Total Organic Halogen (A)	3.5	0.5	9020	BR	05/11/89
Total Organic Halogen (B)	4.5	0.5	9020	BR	05/11/89
Total Organic Halogen (C)	3.7	0.5	9020	BR	05/11/89
Total Organic Halogen (D)	4.0	0.5	9020	BR	05/11/89
Zinc (Zn)	0.13	0.01	289.1	KG	05/22/89

Notes:
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(5) Coliform results expressed as organisms per 100 ml.
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